



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,972	02/04/2004	Ismat Ali Abu-Isa	DP-310798	3831
27305	7590	06/20/2007	EXAMINER	
HOWARD & HOWARD ATTORNEYS, P.C. THE PINEHURST OFFICE CENTER, SUITE #101 39400 WOODWARD AVENUE BLOOMFIELD HILLS, MI 48304-5151			ONEILL, KARIE AMBER	
		ART UNIT	PAPER NUMBER	
		1745		
		MAIL DATE		DELIVERY MODE
		06/20/2007		PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/771,972	ABU-ISA ET AL.	
	Examiner	Art Unit	
	Karie O'Neill	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 April 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-37 is/are pending in the application.
 - 4a) Of the above claim(s) 15-37 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Applicant's amendment filed on April 17, 2007, was received. Claim 1 was amended. Claims 15-37 have been withdrawn from consideration. Therefore, Claims 1-14 are pending this office action.

Claim Rejections - 35 USC § 102

2. The rejection of Claims 1, 4-6, 9, 11 and 13, under 35 U.S.C. 102(b) have been withdrawn because independent Claim 1 has been amended.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4-6, 9, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitto (US 2002/0155348 A1).

With regard to Claim 1, Gitto discloses in Figures 4-6, a battery case (310) comprising: a base portion having a bottom portion (312) and side walls (318) forming an interior compartment for holding battery cell (322) and internal structural components (paragraphs 0049-0050); and a cover portion (326) engaging the side walls for enclosing the compartment, wherein the base portion (312) and cover portion (326) are

Art Unit: 1745

formed of a flame retardant polymeric composition comprising a base polymer and a fire resistant additive (paragraphs 0008 and 0022). Gitto does not disclose wherein at least one of the base portion and the cover portion includes an uncovered vent hole through which evolved gases are permitted to freely escape.

Gitto does disclose vent holes which are covered by caps (334) that are removable for adding liquid to the battery and also allowing excess gases to escape (paragraph 0051). Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to include uncovered vent holes in the battery case of Gitto, because evolved gases with a battery case need to escape so as not to build up and cause damage to the cells within, and by removing the removable caps, evolved gases are allowed to freely escape from the uncovered vents.

With regard to Claim 4, Gitto discloses wherein the base polymer is a thermoplastic polymer selected from the group consisting of: polyethylene and polypropylene (0027).

With regard to Claim 5, Gitto discloses wherein the base polymer is a thermoset polymer selected from the group consisting of phenolics or a sterically hindered phenol (paragraph 0032).

With regard to Claim 6, Gitto discloses wherein the flame retardant polymeric composition comprises fire retardant additive, being 40 parts by weight. See Table 3, Example 6.

With regard to Claim 9, Gotto discloses wherein the α-olefin-containing copolymer is a copolymer of ethylene with one of butane and hexane. Gitto does not

disclose the density of the α-olefin-containing copolymer, however, it is the position of the examiner that other properties of said material, such as molecular weight, are inherent, given that the α-olefin-containing materials disclosed by Gitto and the present application having similar properties such as highly crystalline isotactic and syndiotactic forms. A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities. In re Robertson, 49 USPQ2d 1949 (1999).

With regard to Claim 11, Gitto discloses wherein the fire resistant additive includes antimony oxide (paragraphs 0057-0060).

With regard to Claim 13, Gitto discloses the battery case further comprising at least one internal structural component in the interior compartment that is made of the flame retardant polymeric composition. Figure 4 shows the outer walls (318) having ribs (320) that extend from one side to the opposite side through the interior compartment of the battery case (31) for additional structural strength (paragraph 0049).

With regard to Claim 14, Gitto discloses in Figure 6, on the cover portion (326), a plurality of the vent holes with caps (334) that are removable for adding liquid to the battery and allow excess gases to be vented from the casing (paragraphs 0049-0051).

5. Claims 2, 3, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitto (US 2002/0155348 A1), as applied to Claims 1, 4, 5-6, 9, 11, 13 and 14 above, and in further view of Sakai et al. (US 5,180,767).

Art Unit: 1745

Gitto discloses the battery case in paragraph 4 above, including using a thermoplastic polyolefin such as polypropylene (paragraph 0027), but does not disclose wherein the base polymer comprises polyphenylene oxide and glass fiber, wherein the base polymer is a thermoset polymer selected from the group consisting of a polyurethane, rubber, phenolic and an epoxy, wherein the fire resistant additive includes intercalated graphite and wherein the fire resistant additive includes a chlorinated paraffin and chlorinated polyethylene.

With regard to Claims 2 and 3, Sakai et al. disclose wherein the base polymer comprises polyphenylene oxide (column 26 line 35) and glass fiber as a filler (column 28 lines 21-26). Sakai et al. do not specifically disclose parts by weight of the glass fiber, but Sakai et al. disclose the parts by weight of the components of several examples of polymeric binder and fire resistant additives. Therefore, it would have been within the skill of the ordinary artisan to increase or decrease the amount of glass fibers in order to enhance the structural integrity of the structure the flame retardant material is being used for. *Discovery of optimum value of result effective variable in known process is ordinarily within the skill of the art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ 215.

With regard to Claim 5, Sakai et al. disclose wherein the base polymer is a thermoset polymer selected from the group consisting of polyurethane (column 26 line 38). Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to use polyurethane with the base polymer of Gitto, because

Art Unit: 1745

Sakai et al. teach using a material wherein the melt flow index is 0.1 to 100 (column 26 lines 1-4).

With regard to Claim 7, Sakai et al. disclose wherein the fire resistant additive includes graphite (column 28 line 27). Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to use graphite as the fire resistant additive of the Gitto battery case, because Sakai et al. teach this material as a filler used for enhancing fire retardency (column 27 lines 50-51).

6. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gitto (US 2002/0155348 A1), as applied to Claims 1, 4, 5-6, 9, 11, 13 and 14 above.

Gitto et al. disclose the battery case in paragraph 4 above, but do not disclose percent compositions and parts by weight of the polymeric base and fire retardant materials.

With regard to Claims 8 and 10, Gitto discloses the battery case comprising: polymeric binder comprising high density polyethylene and α-olefin-containing copolymer (paragraph 0027); a nitrogen gas-generating agent selected from the group consisting of salts selected from the group consisting of phosphates, phosphonates and posphinates (paragraph 0028); a water vapor generating agent such as hydrated magnesium (paragraph 0030); an antioxidant such as a hinder phenol (paragraph 0032); a reinforcing agent such as clays and oxides (paragraph 0030), and wherein the fire resistant additive is essentially halogen-free (paragraph 0029). Gitto does not disclose the density of the polyethylene and α-olefin-containing copolymer, however, it

is the position of the examiner that other properties of said material, such as molecular weight, are inherent, given that the α-olefin-containing materials disclosed by Gitto and the present application having similar properties such as highly crystalline isotactic and syndiotactic forms . A reference which is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities.

In re Robertson, 49 USPQ2d 1949 (1999). Gitto also does not specifically disclose parts by weight of each component of the blended mixture, but Tables 1-6 disclose the parts by weight of the components of several examples of polymeric binder and fire resistant additives. Therefore, it would have been within the skill of the ordinary artisan to increase or decrease the amount of polymeric binder, nitrogenous gas-generating agent, water vapor generating agent, antioxidant, and reinforcing agent in order to improve the low smoke, flame retardant, mechanical, electrical, processability and heat seal properties of the battery case. *Discovery of optimum value of result effective variable in known process is ordinarily within the skill of the art.* In re Boesch, CCPA 1980, 617 F.2d 272, 205 USPQ 215.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gitto (US 2002/0155348 A1), as applied to Claims 1, 4, 5-6, 9, 11, 13 and 14 above, and in further view of Abu-Isa et al. (US 5,834,535).

With regard to Claim 12, Gitto discloses the battery in paragraph 4 above, but does not disclose wherein the fire resistant additive includes a chlorinated paraffin and chlorinated polyethylene.

Abu-Isa et al. disclose wherein the thermoplastic elastomer includes chlorinated polyethylene (column 2 lines 47-61). Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to use chlorinated polyethylene as an additive in the battery case of Gitto, because Abu-Isa et al. teach chlorinated polyethylene as being an effective heat and fire barrier and, upon burning, the material will not melt and drip but will form a relatively strong foamed barrier of char and inorganic ceramic-like material (column 2 lines 15-22).

Double Patenting

8. The rejection of Claims 1-37, provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-30 of co-pending Application No. 10/771,916, has been withdrawn because a Terminal Disclaimer has been approved.

9. The rejection of Claims 1-37, provisionally rejected on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1-27 of co-pending Application No. 11/498,118, has been withdrawn because a Terminal Disclaimer has been approved.

Response to Arguments

10. Applicant's arguments, see pages 14-17, filed April 17, 2007, with respect to the rejection(s) of claim(s) 1, 4-6, 9, 11 and 13 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Gitto (US 2002/0155348 A1).

Applicant's principal arguments are:

(a) *Gitto does not teach that either a base portion or a cover portion of this battery casing includes an uncovered vent hole through which evolved gases are permitted to freely escape.*

In response to Applicant's arguments, please consider the following comments:

(a) Gitto teaches a battery casing that includes caps, which are removable for adding liquid to the battery. If the caps are removed in order to add liquid to the battery casing, evolved gases will also be able to escape the system. Since the caps are considered removable, it is possible to keep the caps removed from the vent holes permanently in order to allow the gases to continuously escape.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1745

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karie O'Neill
Examiner
Art Unit 1745

KAO



DAH-WEI YUAN
PRIMARY EXAMINER